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31.3.1.0.88
53.6.78 5.26.78
50.9.00 1.0.9.00
45.7.78 0.07.78

ABSTRACT LOG

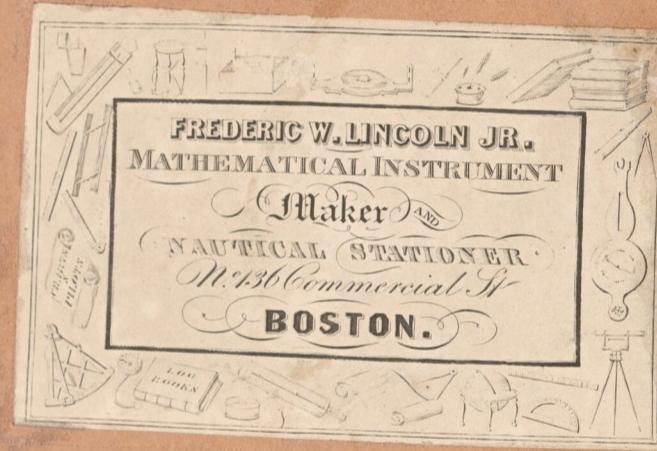
(MAURY'S WIND AND CURRENT CHARTS,)

Kept on board the Bark Franklin of Boston

during the years 1856

357.75
357.75
357.75
357.75

#265



Equipment

Inventory of Goods and Supplies

Station

ITEMS 10
COTTON 4.00
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ITEMS 10
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ITEMS 10
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ITEMS 10
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Abstract Log of Bark Heinlin

Captain J. D. Burgess

From Milbridge Maine

to River Plate

1856

2

Ther. in use, No.
Corrections,

REMARKS.

* "PROP. SKY CLEAR."
 ☁ Entirely overcast.
 10 Not a cloud to be seen.

Oct 25 at 12 M civil time left Pilot off Wood island light & proceeded to sea

Oct 26 Sea time commences my journal pleasant to passing clouds

Oct 27th Moderate U.S. wine

28 at 1 P.M. fresh gales from W. cloudy, heavy squalls

29th fresh gales from N.W. passing clouds

30th Oct Moderate breeze passing clouds

Middle Moderate

Later part light air from SSW smooth sea all sail set by 10 a.m.

21st Oct first part moderate S.E. all sail set heading 44° W
at 7 a.m. took to the E double-ruled topsails

ERRATUM.

In the note relative to "Proportion of Sky Clear," at top of right hand page of Abstract Log, the figure "**3**" has been erroneously printed, on *some pages*, to designate "Entirely overcast." The note should read as follows:—

{ * "PROP. SKY CLEAR."
 0 Entirely overcast.
 10 Not a cloud to be seen.

 It is recommended that before any entries are made in the Abstract Log, the above-named error be corrected with pen and ink, on every page on which it occurs.

1

Abstract Log of Bark Kremlin

Captain J. A. Burgess

From Millbridge Main

to River Plate

X 1856

2

Ther. in use, No.

Corrections,

REMARKS.

* "PROP. SKY CLEAR."
Entirely overcast.
10 Not a cloud to be seen.

Oct 25 at 12 M civil time left Pilot off Wood Island light & proceed to sea

Oct 26 Sea time commences my journal pleasant & passing clouds

Oct 27th Moderate S.E. wind

28 at 1 P.M. fresh gales from S.W. cloudy heavy squalls

29th fresh gales from S.W. passing clouds

30th Oct Moderate breeze passing clouds

Middle Moderate

1st part light air from S.E. smooth sea all sail set by noon

31st Oct first part Moderate S.E. all sail set heading S.S.W.

at 7 a.m. tacked to the E double reefed topsails

2nd part fresh gales passing clouds heading E.N.E.

Nov 1st first & middle fresh gales sea quite smooth
at 8 a.m. filled upper topsails & mainsail. at 12 M set reefed mainsail
prospect looks bad

Nov 2nd first & middle heavy squalls & fresh gales under top
lower topsails

3rd part more moderate at 8 a.m. set reefed courses
this is the third day the wind has been from the S.E.
when will it change head

Nov 3rd first part fresh gales heavy squalls

Abstract Log of

Captain.

Date.	Hour.	Latitude.	Longitude.	CURRENTS.		BAROMETER.		THERM'R.		FORM AND DIRECTION OF CLOUDS.	*PROP. OF SKY CLEAR.	HOURS OF FOG A. RAIN B. SNOW C. HAIL D.	MAGNETIC VARIATION OBSERVED.	WINDS.	
				Direction.	Rate.	Height.	Ther. Att'd.	Air.	Wat'r					Direction.	Rate.
Nov 30	4										5			SW	7
	9										6			SW	7
Noon.	12	38°27'	51°21'			30.2	73	73	73		6			SW	7
	3										7			SW	7
	8										8			SW	6
	4										9			SW	4
	9										10			Buoying	9
Dec 1	12	37°46' S	49°15' E			30.15	73	73	73		11			calm	0
	3										12			SW	8
	8										13			SW	8
	4										14			SW	7
	9										15			South	5
Noon.	12	37°19'	48°00'			30.1	73	73	73		16			South	5
	3										17			SW	8
	8										18			SW	7
	4										19			South	5
	9										20			SW	6
Dec 6	12	36°58'	46°00'			30.00	74	73	73		21			South	5
	3										22			South	5
	8										23			SW	8
	4										24			South	6
	9										25			SW	6
Noon.	12	36°34'	44°00'			29.95	76	76	75		26			South	6
	3										27			South	6
	8										28			SW	6
	4										29			SW	8
	9										30			SW	9
Dec 8	12	0000				29.9	76	76	75		31			SW	10
	3					29.8					32			SW	9
	8					29.7					33			SW	9
	4					29.6	76	76	75		34			SW	10
	9					29.5					35			South	9
Noon.	12	0000									36			South	8
	3										37			South	8
	8										38			South	7
	4										39			SW	7
	9										40			SW	7
Dec 10	12	37°00'	0000			29.65					41			South	7
	3										42			SW	7
	8										43			SW	7
	4										44			SW	7
	9										45			SW	7
Noon.	12	37°00'	0000			29.7					46			SW	7
	3										47			SW	7
	8										48			SW	7
	4										49			SW	7
	9										50			North	8
Dec 11	12	37°18'				29.8					51			SW	7
	3										52			SW	7
	8										53			North	8

Ther. in use, No.
Corrections, _____

REMARKS.

* "PROP. SKY CLEAR."
 ② Entirely overcast.
 10 Not a cloud to be seen.

Nov 8th 1866 Middle & latter part fresh gales light squalls
had chance this to get along on my proscribed track

Nov 4th all this day squally S W winds from fresh to light
at 8 a.m. whole topsails & M & gallant sail

Nov 5. first part moderate rainy light squalls

Middle light airs & calms

Latter part fresh gales to squally at 11 reefed Topsails & Mainsail
this is the 5th day Sec. S. & S.W. winds, when will they end?

Nov 6th first part fresh gales to squally
Middle fine whole sail breeze at 11 Topgallant sail set

Latter part fine breezes T. G. sails set by the wind
one week by the wind. Oh when shall I get a slant.

Nov 7th first part Topgallant breezes passing clouds

Middle fresh gales & heavy squalls furled upper topsails

Latter part more moderate at 10 a.m. whole Topsails at 11 M & G sail

Nov 8 first & middle fresh breezes & squally reefed Topsails
latter part strong gales heavy squalls at 12 M furled courses
& upper topsails & squalls off rain

Nov 9th first & middle heavy gales & heavy squalls

at 6 p.m. clewed up & furled weather yard arm of T. G. M. Topsails
very heavy squalls some rain latter part heavy gales & squally

Nov 10th first part heavy gales & heavy squalls with rain
middle more moderate but squally set whole lower Topsail
to 9 a.m. light airs from N. W. & E. S. to around the compass
latter part fresh breezes from S. S. W. passing clouds
this is certainly the worst chance I have ever seen in my 40
years to sea cannot get a slant. am now 16 days out &
no farther along I must make a long passage as it is now

Nov 11th first part fresh breezes & passing clouds

Middle strong gales & heavy squalls at 12 furled all sail except
the clews of Topsails & Staysails heavy squalls with rain

Abstract Log of

Captain

Date.	Hour.	LATITUDE.	LONGITUDE.	CURRENTS.		BAROMETER.		THERM'R.		FORM AND DIRECTION OF CLOUDS.	*PROP. OF SKY CLEAR.	HOURS OF FOG A. RAIN B. SNOW C. HAIL D.	MAGNETIC VARIATION OBSERVED.	WINDS.	
				Direction.	Rate.	Height.	Ther. Att'd.	Air.	Wat'r					Direction.	Rate.
Nov 11 th 1868	4										3			North	
	9										5			W W N	5
12	Noon.	36° 23'	38 13'			29.8	73	70	72		1			S	5
	3										1			S W	5
	8										1			W	
	4										1			W	
	9										1			W	
13	Noon.	35° 37'	37 13'			29.8	72	70	73		2			West	5
	3										2			W S	5
	8										3			W S	5
	4										4			W S	5
	9										5			W off	3
14	Noon.	33° 46'	35 14'			30.05	73	73	73		7			W Y W	3
	3										7			calm	
	8										7			W Y W	3
	4										7			calm	
	9										7			South	4
15	Noon.	32° 57'	35 57'			30.1	73	73	73		7			South	4
	3										6			South	4
	8										3			South	3
	4										3			W Y W	6
	9										2			W Y W	6
16	Noon.	32 40				30.00	73	73	73		1			W Y W	6
	3										1			W Y W	6
	8										2			W Y W	5
	4										3			W Y W	5
	9										3			W Y W	5
17	Noon.	31 32	36 06'			30	73	73	73		4			W Y W	4
	3										5			W G W	3
	8										5			W G W	2
	4										5			W G W	2
	9										5			W G W	2
18	Noon.	30 29	34 46'			30.1					5			W G W	2
	3										6			W G W	2
	8										6			W G W	2
	4										6			W G W	2
	9										6			W G W	2
19	Noon.	29 30	34 22			30.07	74	74	74		6			W G W	1
	3										5			W G W	1
	8										5			W G W	1
	4										5			W G W	1
	9										5			W G W	1
20	Noon.	28 56	34 00			30.05	74	74	74		8			W Y W	3
	3										8			W Y W	3
	8										8			W Y W	3

From Bilbridge Maine to River Plate. abo 1856

6

Ther. in use, No. _____	REMARKS.	{"PROPS. SKY CLEAR." 0 Entirely overcast. 10 Not a cloud to be seen.}
Corrections, _____		

November 11th 1856.

- latter part light airs worth
- 12th Nor first part light airs & worth
middle light breezes West all sail set
latter part fresh winds SSW T.G. Sails in
- 13th Nor first & middle fresh gales heavy sea under reefed topsails
latter part squally at 11 m set topgallant sails
- 14th Nor first & middle fresh breeze to squally
latter part moderate to pleasant all sail set. 20 Day out no farther
- 15th first part light breeze WWS W & pleasant
middle calm latter part wob sail breeze South passing closer
this beats all I ever saw this is the 15th day the sun has been
from the Southward. when shall I get a chance to get along
- 16th first part fresh breeze at 11 m fulla Royals to get
middle to latter part fresh breeze reefed topsails
at 6 a.m. woe to the G.E. bad appearances had luck
- 17th first & middle strong breeze to squally much rain
latter part moderate all sail set by the wind 23 days out
- 18th all this day light airs to pleasant heavy swell from SW
all sail set by the wind 19 days by the wind. God help me.
- 19th abo all this day light airs from SW to SW E. pleasant
at 7 a.m. saw a sail astern steaming about 13 fms.
the appearances are that the wind will be from the E. soon
I have had a hard passage so far 25 days out to no farther along
I have been to the Equator in 28 days in this same bark. I trust to God
- 20th abo first light airs SW E. middle calm.
latter part moderate breeze WWS W. Squally appearance in the SW
26 days out.
- 21st
First part moderate & pleasant smooth sea all sail set by the wind

7
Abstract Log of Bark Kremlin Captain J. L. Burgess.

Date.	Hour.	LATITUDE.	LONGITUDE.	CURRENTS.		BAROMETER.		THERM'R.		FORM AND DIRECTION OF CLOUDS.	*PROP. OF SKY CLEAR.	HOURS OF FOG A. RAIN B. SNOW C. HAIL D.	MAGNETIC VARIATION OBSERVED.	WINDS.	
				Direction.	Rate.	Height.	Ther. Att'd.	Air.	Wat'r					Direction.	Rate.
Noon 11	4					28.34	30.00				0			W Y W	4
	9										0				
12 21	Noon. 12	16 33	33 30 M.			30.00	75.75	75.75	75.75		0			W Y W	1
	3										3				
	8										0			W Y W	1
	4										0				
	9										3			W Y W	1
13 22	Noon. 12	24 03	33 43 M. S. S. 1	29.9	1	29.9	75.75	75.75	75.75		3	3		W W W	1
	3										3				
	8										3			W W W	1
	4										3			W W	1
	9										3				
14 23	Noon. 12	21.30	32 45	0	29.9	75.75	75.75	75.75	75.75		3			W W	1
	3										3				
	8										3			W E	1
	4										3				
	9										3			W E	1
15 24	Noon. 12	19 35	32 19	29.9	76.75	78.75					8	8		W Y W	1
	3										8				
	8										8			West	1
	4										7			North	1
	9										6			Cloudy	3
16 25	Noon. 12	18 31	32 18	29.9	78.75	78.75					0	B		East	3
	3										0	B		South	4
	8										0	B		Cloudy	2
	4										0	B		Cloudy	3
	9										0	B		Cloudy	2
17 26	Noon. 12	16 08		29.87							0	8		South	3
	3										0	8		South	2
	8										0	8		Cloudy	3
	4										0	8		Cloudy	2
	9										0	8		Cloudy	2
18 27	Noon. 12	17 34	31 33	29.9	80.00	80.00					0			Calm	2
	3										8				
	8										8			Calm	
	4										9			Calm	
	9										9			Calm	
19 28	Noon. 12	17 07	31 49	29.9	80.80	80.80					8			Calm	
	3										8			Calm	
	8										8			Calm	
	4										8			Calm	
	9										8			Calm	
20 29	Noon. 12	15 55	31 37	29.9	80.80	80.80					8			888	3
	3										8			888	3
	8										8			888	3

From Millbridge Main to River of Plate 1856

8

- | | | | |
|-------|-------------------------|----------|---|
| Rate. | Ther. in use, No. _____ | REMARKS. | PROPS. SKY CLEAR.
0 Entirely overcast.
10 Not a cloud to be seen. |
|-------|-------------------------|----------|---|
- Corrections, _____ }
- November 21st 1866.
- 21st Middle & latter part Moderate breezes & smooth sea at 8 a.m. saw a sail to the eastward Steaming South
- 22nd Full moon to day first & middle fine breezes & pleasant weather all sail set latter part fine breezes 6 to 8 a.m. rainy wind WSW at 12 M. Set Topmast Steaming sail for the first time since leaving port 27 days out all well 28 days out
- 23rd all this day moderate breezes & pleasant all sail set sea smooth saw a Brig Steaming West I have seen none of the Gargassa weed as I have in past passage
- 24th all this day moderate winds & pleasant smooth sea at 10 A.M. saw a Bark Steaming South by West this is a hard chance sure I cannot get along without wind I am now 30 days out & no farther along, I ought to be south of the line
- 25 all this day light airs W. S.W. & E.N.E. smooth sea swell from WSW and has been for one week past it appears like a southerly wind 31 days out
- 26th first part Moderate breezes E. S.E. at 4 P.M. heavy squall from SW thunder & lightning heavy rain middle Moderate & heavy rain latter part Moderate & especially heavy rain I have never seen such weather in these latitudes. Landsmen pray for me. 32 days out
- 27th first & middle light breezes South heavy rain latter part calm sea from all directions 33 days out. Shall I ever get there
- 28 All this day Calm. Smooth Sea pleasant weather I am about discouraged. I think no one ever had such a hard chance as I have had especially at this season of the year I ought to have good strong trades here instead of calms. I am in a good position 34 Days Out. God save the King
- 29 first & middle Calm & light airs East pleasant latter part Moderate E.S.E. all sail by the wind
- 30 first part Moderate breeze pleasant appears like trades

Abstract Log of Bark Kremlin Captain J. D. Burgess.

Date.	Hour.	LATITUDE.	LONGITUDE.	CURRENTS.		BAROMETER.		THERM'R.		FORM AND DIRECTION OF CLOUDS.	*PROP. OF SKY CLEAR.	HOURS OF FOG A. RAIN B. SNOW C. HAIL D.	MAGNETIC VARIATION OBSERVED.	WINDS.	
				Direction.	Rate.	Height.	Ther. Att'd.	Air.	Wat'r					Direction.	Rate.
12 30	Noon.	13° 19'	30° 33'			29.9	80	80	80		8	8	8	East	5
13 1	Noon.	10° 52'	29° 19'			29.9	80	80	80		8	8	8	East	5
14 2	Noon.	8.38	28° 09'			29.9	80	80	80		4	1	1	East	5
15 3	Noon.	6.55	27° 30'			29.9	80	80	80		3	3	3	East	5
16 4	Noon.	6.11	26° 55' E	1		29.92	81	82	81		0	0	0	East	5
17 5	Noon.	4.16	25° 51'	0		29.94	83	84	82		1	1	1	East	5
18 6	Noon.	2.55	26° 42'			29.9	83	85	82		2	2	2	SS, S,	5
19 7	Noon.	1.03	28° 12'			29.9	84	84	82		3	3	3	SS, S,	5
20 8	Noon.	0.55	29° 30'			29.9	85	85	82		3	3	3	SS, S,	5

Ther. in use, No.

Corrections,

REMARKS.

* "PROP. SKY CLEAR."
0 Entirely overcast.
10 Not a cloud to be seen.

November 30th 1866

- 30 Middle & latter part fresh trades E to E & S pleasant
got the trades at last fine breezes & pleasant weather
36 Days out. all well.
- 1st December. all this day moderate breezes from E & S. to East pleasant
all sail set. Strong tide rips but no current
trade like appearance but I fear they will not last long
37 Days Out. Ought to be in do but
- 2nd All this day fine breezes first part smooth Middle & latter
part rough cross sea from N to S. a.m. Squally heavy rain
thick heavy appearances in the South I fear the trades are about
done 38 Days out.
- 3rd first & middle fine breezes East passing clouds confused sea from
all points of compass at 3 a.m. squally with rain & calms
latter part calm. the trades are done have had them from 15° &
6 degrees leave bony trades nothing to the North of East on an average
beaten sharp all the time as I have been the entire passage
I have got to fight it the best I can until I get the S & trades 39 Days out
- 4th first & middle calm E & South air calm through the night rainy
latter part moderate breezes W. & S. at 8 a.m. set Topmast Studding-sail
by the S fine on the passage 30 miles East current. thank God
for this breeze I did not expect it. I fear it will not last long
cross sea from all points of compass 40 Days out. & S. North Bully
- 5th first part moderate W. & breezes Middle E Squally much rain
latter part fresh East breezes squally canting South. appearances like
trades. two sail in company bound South. I call it the S &
trades. I ought to have something to get me along. 41 Days out.
- 6th first & middle Moderate breezes S & Squally with rain
latter part fresh S & S squally of course & rain in company with
two sail bound South. dirty appearances. Glass too low for good
S. & trades expect to see it rise soon 42 Days out.
- 7th all this day fine breezes S & S & pleasant. few light
squally it is certainly the S & trades getting along quite
well braced sharp of course to have been almost the whole passage
I hope the wind will cant more easterly 43 Days out No current
- 8th all this day fine breezes S & S. pleasant weather
at 1 A.M. crossed the Equator long 28.5° of Chon 43 days or less
- 9th first part moderate S & S pleasant all sail

Abstract Log of Bark Kremlin Captain J. L. Burgess

Date.	Hour.	LATITUDE.	LONGITUDE.	CURRENTS.		BAROMETER.		THERM'R.		FORM AND DIRECTION OF CLOUDS.	*PROP. OF SKY CLEAR.	HOURS OF FOG A. RAIN B. SNOW C. HAIL D.	MAGNETIC VARIATION OBSERVED.	WINDS.	
				Direction.	Rate.	Height.	Ther. Att'd.	Air.	Wat'r					Direction.	Rate.
Nov 12	9	25° 51'	30° 34'	S		29.9	84	84	82		5			S E	4
12	Noon.	12									5			S S	4
13	9	24° 52'	31° 37'			29.9	84	84	81		6			S S	4
13	Noon.	12									6			S S	4
14	11	26° 50'	32° 40'			29.95	87	84	82		6			East	3
14	Noon.	12									7			East	3
15	12	28° 43'	33° 28'			29.95	84	84			7			East	3
15	Noon.	12									7			S W S	3
16	13	26° 38'	34° 42'			29.98	84	86			7			S W S	3
16	Noon.	12									7			S W S	3
17	14	23° 17'	35° 05'			29.95	84	86			7			S W S	3
17	Noon.	12									7			S W S	3
18	15	25° 36'	36° 24'	S		29.95	86	86	87		7			S W S	3
18	Noon.	12									7			S W S	3
19	16	27° 36'	37° 06'	00	0	29.95	84	87			7			S W S	3
19	Noon.	12									7			S W S	3
20	17	29.50	37° 53'			29.9	84	85			7			S W S	3
20	Noon.	12									7			S W S	3

Ther. in use, No.

Corrections,

REMARKS.

* "PROP. SKY CLEAR."
0 Entirely overcast.
10 Not a cloud to be seen.

Dec 9th 1866

- 9 Middle & latter part fine breezes & pleasant all sail
have experienced no current as yet 44 Days Out.
- 10th this day Moderate S.E. breezes & pleasant all sail smooth sea
consider myself in a good position & clear of St Roque 45 days out
- 11th all this day light breezes S.E. to East smooth sea all sail
no current 46 Days Out.
- 12 All this day Moderate & pleasant all sail set
no current getting along very slow. 47 Days Out.
- 13th All this day fine breezes & pleasant weather all sail set
very warm & muggy getting along slow 48 Days Out.
- 14th All this day fine breezes & pleasant all sail set
light Southern current 49 Days Out.
- 15th All this day light breezes & pleasant very warm all sail set
Southern current 50 Days out.
- 16 All this day Moderate & pleasant all sail
no current 51 Days Out.
- 17 first & Middle Moderate S.E. all sail steaming 52 Days out
latter part fine breezes & & pleasant saw streaks on the water
appearing like discoloured water 52 Day out.
- 18th first part Moderate N.E. pleasant all sail

Abstract Log of Bark *Gremlin* Captain *J. L. Burgess*

Date.	Hour.	LATITUDE.	LONGITUDE.	CURRENTS.		BAROMETER.		THERM'R.		FORM AND DIRECTION OF CLOUDS.	*PROP. OF SKY CLEAR.	HOURS OF FOG A. RAIN B. SNOW C. HAIL D.	MAGNETIC VARIATION OBSERVED.	WINDS.	
				Direction.	Rate.	Height.	Ther. Att'd.	Air.	Wat'r					Direction.	Rate.
Noon.	4	35°	DR								0			W W 8	5
Noon.	9	DR	DR								0			North	5
Noon.	12	32 28	39 17			29.85	81	85			0			North	First Part. Lat. Part. M. P ⁿ
Noon.	3										0			Calm	
Noon.	8										0			Calm	
Noon.	4										0			Calm	
Noon.	9	P.R.	48.60			29.80	84	85			0			G G 2	5
Noon.	12	30°30									0			G G 2	5
Noon.	3										0				
Noon.	8										0				
Noon.	4										0				
Noon.	9	34 35	40 15			29.78	84	84			2			South	5
Noon.	12										4			South	4
Noon.	3										6			South	4
Noon.	8										8			South	4
Noon.	4										8			South	4
Noon.	9	25 13	41 33			29.8	80	80			8			South	4
Noon.	12										8			South	4
Noon.	3										8			South	4
Noon.	8										8			South	4
Noon.	4										8			South	4
Noon.	9	26 50	43 18			30.00	80	81			8			G G 0	5
Noon.	12										8			G G 0	5
Noon.	3										8			G G 0	5
Noon.	8										5			G G 0	5
Noon.	4										5			G G 0	5
Noon.	9										8			G G 0	5
Noon.	12	29 29	45 08			30.1	80	80			6			East	6
Noon.	3										6			E	6
Noon.	8										6			E	6
Noon.	4										4			E	6
Noon.	9										3			E	6
Noon.	12	32 04	47 17			30.1	80	80			6			E	6
Noon.	3										4			E	6
Noon.	8										4			E	6
Noon.	4										4			E	6
Noon.	9										4			E	6
Noon.	12	34 24	50 00			29.9	80	88			4			W 8	6
Noon.	3										4			W 8	6
Noon.	8										4			W 8	6
Noon.	4										4			W 8	6
Noon.	9										4			W 8	6
Noon.	12	35 30	51 58			29.5					4			W W W	6
Noon.	3										4			W W W	6
Noon.	8										4			W W W	6

THER. IN USE, NO.	REMARKS.	* "PROP. SKY CLEAR." 0 Entirely overcast. 10 Not a cloud to be seen.
Corrections,		
	December 18 1866	
18 th	Middle fresh passing clouds all sail set Latter part fresh SSW cloudy fine rain	53 Days out
19 th	first part fine breezes North cloudy Middle & latter part calm rain squalls Party weather bad sea from all quarters Brig in sight bound South	54 Days out.
20 th	first part fresh to squally SSE light sails furled high sea middle & latter part fresh SSW to South bad South sea light squalls of rain	55 days out.
21 st	All this day Moderate breezes first part squally latter part less sea than for two days.	56 Days out.
22 nd	All this day fresh breezes South & SSE. Pleasant weather 57 Days out.	
23 rd	first part fresh breezy pleasant all sail Middle & latter part fresh Gales to squally S.E. to East light sea in then appears to be a SW Set	58 Days out.
24 th	All this day fresh Gales East passing clouds light squalls light sails out to run Distance by log 210 miles	59 Days out
25 th	All this day fresh Gales E or S to N.C. light squalls Steaming SW Barometer falling Distance run 236 miles. 60 Days out.	
26 th	first part fresh breezy N.C. Middle strong Gales N.W. latter part heavy Gales West to S.W. hope too wide too lower topsails heavy squalls sounded found no bottom	61 Days out
27 th	first part heavy gales / heavy squalls at 2 P.M. frusted the weather by end arms of the topsails	

Abstract Log of Bark Gremlin Captain J. S. Burgess

Ther. in use, No. _____
Corrections, _____

REMARKS.

* "PROP. SKY CLEAR."
0 Entirely overcast.
10 Not a cloud to be seen.

December 27th

17 Middle Strong gales. latter part more moderate Barometer rising pleasant weather if my observations are correct there has been a strong current to the West 6th Days out, bad luck indeed!

18 first part fresh gales passing clouds made sail to suit the breeze middle moderate at 11 all sail set latter part calm at 12 M. 27 fathoms water brown sand have had strong westerly currents the last two days 6th Days out.

19th first part calm. middle fresh breezes at 8. went S. & W. at 7 A.M. Solos Island bore SSW. latter part light air west at 10th M. Black Point bore SW 11 Miles distant 6th Days out. It has been the most perplexing passage I ever made.

Abstract Log of Bark Kremlin Captain *Jas Burgess.*

Date.	Hour.	LATITUDE.	LONGITUDE.	CURRENTS.		BAROMETER.		THERM'R.		FORM AND DIRECTION OF CLOUDS.	*PROP. OF SKY CLEAR.	HOURS OF FOG A. RAIN B. SNOW C. HAIL D.	MAGNETIC VARIATION OBSERVED.	WINDS.	
				Direction.	Rate.	Height.	Ther. Att'd.	Air.	Wat'r					Direction.	Rate.
Noon.	12										8			W 8	3
	4										8			29.8	4
	9										2			E to N E	First Part Lat. Part. M. P.
Noon.	12	35°56'	53°24' W.			29.7					2			W 8	2
	3										2			W 8	1
	8										2			W 8	1
Noon.	12										2			W 8	4
	4										2			W 8	4
	9										2			W 8	5
Noon.	12	N									2			W 8 all round	
	3										2			W 8	1
	8										2			W 8	1
Noon.	12	37°46'									2			W 8	5
	3										2			W 8	1
	8										2			W 8	1
Noon.	12										2			W 8	5
	4										2			W 8	1
	9										2			W 8	1
Noon.	12	N									0			North	7
	3										0			North	7
	8										0			North	7
Noon.	12	37°53'									0			W 8	
	3										0			W 8	6
	8										0			G S W	4
Noon.	12	37°53'	17°53'								0			G S W	5
	3										0			G S W	5
19	8										0			G S W	5
	4										0			G S W	5
	9										0			G S W	5
Noon.	12	34°24'									0			G S W	5
	3										0			G S W	5
20	8										0			G	4
	4										0			G	4
	9										0			G	4
Noon.	12	32°48'	42°40'								0			South	0
	3										0				
	8										0				

Ther. in use, No.

Corrections,

REMARKS.

* "PROP. SKY CLEAR."
0 Entirely overcast.
10 Not a cloud to be seen.

February 15th 1867 Sea account.

at 3 A.M. got under way from the outer roads & proceeded down the River. at 8 Flores bore W 10 miles.

13th First part fresh breezes all sail set tacked at 3.30 black point bearing S 15 miles Strong breezes furled J.J. Sails at 7.30 reefed Topsails short bad sea. Wind canting to the west Middle fresh breezes latter part Moderate all sail set

14th First part Moderate all sail set 1 Day out Middle fresh breezes light Sails furled, bad appearances latter part squalls & calms heavy rain wind all round compass 2 Days out

15th First part heavy gales & squally at 2 P.M. furled upper Topsails & courses. heavy appearances in the W. & S.W. hope to get the wind from the N. latter part more Moderate at 10 M. set reefed Topsails to Gilt

16th First part Squalls & Spankers to Mainsail hard luck follows me wherever I go Nothing but head winds Out to nothing but head winds so homeward bound 3 Days out.

17th First part Moderate & Squally at 9 P.M. furled upper Topsails to Gilt Middle squally & rainy at 4 A.M. won to the East at 8 A.M. set upper Topsails latter part fresh gales & squally

17th First part fresh gales & Squally with rain Middle the same latter part more Moderate at 8 A.M. set whole Topsails & Gilt. at 10 set 33 sails

18th All this day Moderate breezes & pleasant weather all sail set at 6 A.M. crossed Royal Guard & set Royals. Set Studing sails

19 All this day fine breezes & pleasant all sail set at 11 A.M. signalized a sailing Bark off 300 Steaming West by South 7 Days Out.

20th All this day Moderate breezes & pleasant all sail set 8 Days Out.

21st First part light air & pleasant all sail

Abstract Log of Bark *Kremline* Captain J. D. Burgess

Date.	Hour.	LATITUDE.	LONGITUDE.	CURRENTS.		BAROMETER.		THERM'R.		FORM AND DIRECTION OF CLOUDS.	*PROP. OF SKY CLEAR.	HOURS OF FOG A. RAIN B. SNOW C. HAIL D.	MAGNETIC VARIATION OBSERVED.	WINDS.	
				Direction.	Rate.	Height.	Ther. Att'd.	Air.	Wat'r					Direction.	Rate.
21	4	8	W											S S W	2
	9													S S W	2
Noon.	12	32°04'	41°24'			300					9			Calm	
22	8													Calm	
	4													Calm	
Noon.	12	31°57'	40°50'			300					9			Calm	
23	8										5			Calm	
	4										4			Calm	
Noon.	12	0°00'	00°00'			29.8					0			N N E	
24	8										1			W S W	6
	4										1			W S W	6
Noon.	12	39°11'	39°33'			29.8					8			W S W	4
25	8										8			Calm	
	4										0			Calm	
Noon.	12	0°00'	00°00'			29.7					0			E N E. or E	3
26	8										7			W. W. W. W. W.	5
	4										7			S W	4
Noon.	12	37°45'				29.75					5			W W E	3
27	8										5			W W E	6
	4										6			W W E	6
Noon.	12	0°00'	00°00'			29.7					0			N E	4
28	8										0			W. N. N.	2
	4										0			W. N. N.	2
Noon.	12	37°56'	35°36'			29.8					3			Calm	
29	8										4			Calm	
	4										3			Calm	
Noon.	12	27°48'	34°16'			29.85					3			W W E	4
30	8										3			Calm	
	4										3			Calm	
Noon.	12	27°48'	34°16'			29.85					3			Calm	

From Montevideo.

to Cuba. W. I. 1857

20

Ther. in use, No. _____
Corrections, _____

REMARKS

* "PROP. SKY CLEAR."
0 Entirely overcast.
10 Not a cloud to be seen.

February

21st 1867

Middle & latter part light air & pleasant
all sail set 9 Days Out.

22 All this day Calm. Calm. Calm.

10 Days Out.

23 First & Middle Calm

latter part fresh breezes & light squalls small rain

24 First part squally E or S at 5 P.M. wind from W. S. W. fresh
cloudy small rain Middle cloudy & rainy
latter part moderate & pleasant all sail set

25 First & Middle light air to calm

latter part moderate to squally heavy rain some thunder
light sails in appearance of a change 13 Days out. bad luck.

26th First part calm heavy rain at 2 P.M. fresh breeze E or W to W
Middle moderate to pleasant
latter part moderate cloudy N or E & variable 14 Days Out.

27th First part fresh breezes passing clouds at 8 P.M. reefed top sails
& mainsail. Middle fresh gales & heavy squalls from W heavy rain
latter part moderate N or E heavy at 8 Sea bad luck sun. 15 day out.

28th all this day light air & calm W. E. to West bad North sea squally appa
16 Days Out.

March 1st All this day light air & variable N to E. Calm
17 Days Out head luck sun.

March 2nd 1867. First part Calm

Abstract Log of Bank Kremlin

~~Captain Gal Burgess.~~

From Montevideo

to Cuba W.P.I.

22

1857

Ther. in use, No. _____
Corrections, _____

REMARKS.

{ "PROPS. SKY CLEAR."
0 Entirely overcast.
10 Not a cloud to be seen.

March 1867.

1st March 1867. All this day Calm had sea from N.E. Squally appearance
18 Days Out & no farther along.
2^d All this day light breezes & variable from South to North by the East
all sail set 19 Days Out.

3rd All this day Moderate breezes & pleasant weather all sail
Set by the wind. 20 Days Out. I ought to be to the Equator.

4th All this day Moderate winds & pleasant all sail by the wind
21 Days Out. Lord Help Me.

5th All this day Moderate breezes & pleasant all sail by the wind
22 Days Out.

6th All this day Moderate breezes with light squalls at 6 P.M. tacked
to the Eastward at 8 a.m. tacked to the North 23 Days Out.

7th All this day fine breezes & pleasant all sail by the wind light squalls
23 Days Out.

8th All this day fine breezes & pleasant all sail by the wind
24 Days Out.

9th All this day fine breezes E.W. 8 to N.8 light squalls some rain
25 Days Out.

10th All this day fine breezes W.8 to S.W.8 & pleasant all sail light squalls
26 Days Out.

11th First part fine breezes & pleasant all sail

Abstract Log of Bark Kremlin

Captain Gal Burgess

From Montevideo to Cuba W. I. 1867

24

Ther. in use, No.	Corrections,	REMARKS.	"PROPS. SKY CLEAR."
		March 11 th 1867	{ 0 Entirely overcast. 10 Not a cloud to be seen.
11 th	Middle & latter part fine breezes & pleasant light squalls.	27 Days out.	
12 th	All this day fine breezes & pleasant all sail by the wind.	28 Days out.	
13 th	All this day fine breezes & pleasant all sail	29 Days out.	
14 th	All this day fine breezes & pleasant all sail	30 Days out.	
15 th	All this day fine fresh breezes & pleasant Std Sails set westerly current 30 miles	31 Days out.	
16 th	All this day fine breezes & pleasant all Std Sails	32 Days out.	
17 th	All this day fine breezes from SSW to East & pleasant all sail at 12 o'clock night crossed the Equator long 39 10 West 33 Days out. a long passage the longest I ever had		
18	All this day fine breezes & Squally heavy rain wind variable.	34 Days out.	
19 th	all this day fine breezes & mostly cloudy all sail	35 Days out.	
20 th	First part fresh & pleasant		

Abstract Log of Bark *Kremlin* **Captain J. S. Burgess**

From Montevideo

to Cuba W.S.

26

1857

Ther. in use, No.

Corrections,

REMARKS.

* "PROP. SKY CLEAR."
0 Entirely overcast.
10 Not a cloud to be seen.

March 20th 1867

20 Middle & latter part fresh & pleasant 36 Days out.

21st All this day fine breeze & mostly cloudy Spralls of rain
37 Days out.

22nd All this day fine breeze & pleasant Std Sails set
38 Days out.

23rd All this day fine breeze & pleasant Std Sails set
39 Days out.

24th All this day moderate & pleasant All sail set
40 Days out.

25th All this day moderate breeze from E to ESE & pleasant
41 Days out.

26th All this day light air SSW to South at 10 A.M. Made Barbadoes bearing
SW 22 miles. 42 Days out.

27th first & middle light air & calm at 8 P.M. Barbadoes sight
bare of W. 18 miles Middle light breeze North
at 10 M. St Vincent bare West 60 miles 43 Days out

28th First part light winds at 6 P.M. abreast of SSW point of St Vincent
at 6 through the passage Middle light air & calm
latter part Moderate W. winds. 44 Days out

28th first part Moderate & pleasant.

Captain James Burgess

Abstract Log of Bark Gremlin

Date.	Hour.	N LATITUDE.	W LONGITUDE.	CURRENTS.		BAROMETER.		THERM'R.		FORM AND DIRECTION OF CLOUDS.	*PROP. OF SKY CLEAR.	HOURS OF FOG A. RAIN B. SNOW C. HAIL D.	MAGNETIC VARIATION OBSERVED.	WINDS.	
				Direction.	Rate.	Height.	Ther. Att'd.	Air.	Wat'r					Direction.	Rate.
March 29		13 51	61 44											N E	3
	4													N E	3
	9													N E	3
Noon.	12	13 51	61 44	S E	34 29 9									N E	3
	3													N E	3
	8													N E	3
	4													N E	3
	9													N E	3
Noon.	12	15 09	67 25	W W S	14 29 9									N E	3
	3													N E	3
	8													N E	3
	4													N E	3
Noon.	12	16 09	69 55			29 96								N E	3
	3													N E	3
	8													N E	3
	4													N E	3
Noon.	12	17 14	72 55			29 96								N E	3
	3													N E	3
	8													N E	3
	4													N E	3
Noon.	12	18 23	75 20			30								W N E	4
	3													W N E	4
	8													W N E	4
	4													W N E	4
Noon.	12	19 37	77 20			30								N E	4
	3													N E	4
	8													N E	4
	4													N E	4
Noon.	12	21 18	80 00			29 95								W N E	6
	3													W N E	6
	8													W N E	6
	4													W N E	6
Noon.	12													W N E	6
	3													W N E	6
	8													W N E	6
	4													W N E	6
Noon.	12													W N E	6
	3													W N E	6
	8													W N E	6

Ther.
Correc

29

30

31

3

4

From Montevideo

to Cuba W. I.

28

1857

Ther. in use, No.

Corrections,

REMARKS.

* "PROP. SKY CLEAR."
0 Entirely overcast.
10 Not a cloud to be seen.

March 29th 1867.

29th Middle & latter part Moderate & pleasant Std Sails set
45 Days out.

30th All this day Moderate breeze & pleasant
46 Days out.

31st Sunday. All this day fine breeze & pleasant
47 Days out

April 1st 1867. All this day fine breeze & pleasant
48 Days out.

2^d All this day Moderate breeze & pleasant. at 6 A.M. Savassa Island
bore ESE 10 miles at 12 M. Savassa bore ENE 20 miles
49 Days out.

3^d All this Day Moderate breeze & pleasant at 3 P.M. in 7 fathoms
water on the Gorgonias. at 12 M. Cape Cenay bore E by N 13 miles
50 Days out.

4th All this day fine breeze & pleasant at 6 P.M. Cape Cenay bore
East 18 miles at 12 M. Easter highland of Trinidad bore N by E 60
miles
51 Days out.

Abstract Log of

Captain

From

to

185

Abstract Log of

Captain

From

to

185

Abstract Log of

Captain

Abstract Log of

Captain.

REMARKS.

{ * "PROP. SKY CLEAR."
0 Entirely overcast.
10 Not a cloud to be seen.

{ Date in Reg. No.
Latitude,

CLOUDS.
PRIMARY FORMS.

PLATE XVI.



~~ Stratus (Str.)

~~ Cirrus (Cir.)

~~ Cumulus (Cum.)

~~ Nimbus (Nimb.)

SECONDARY FORMS.



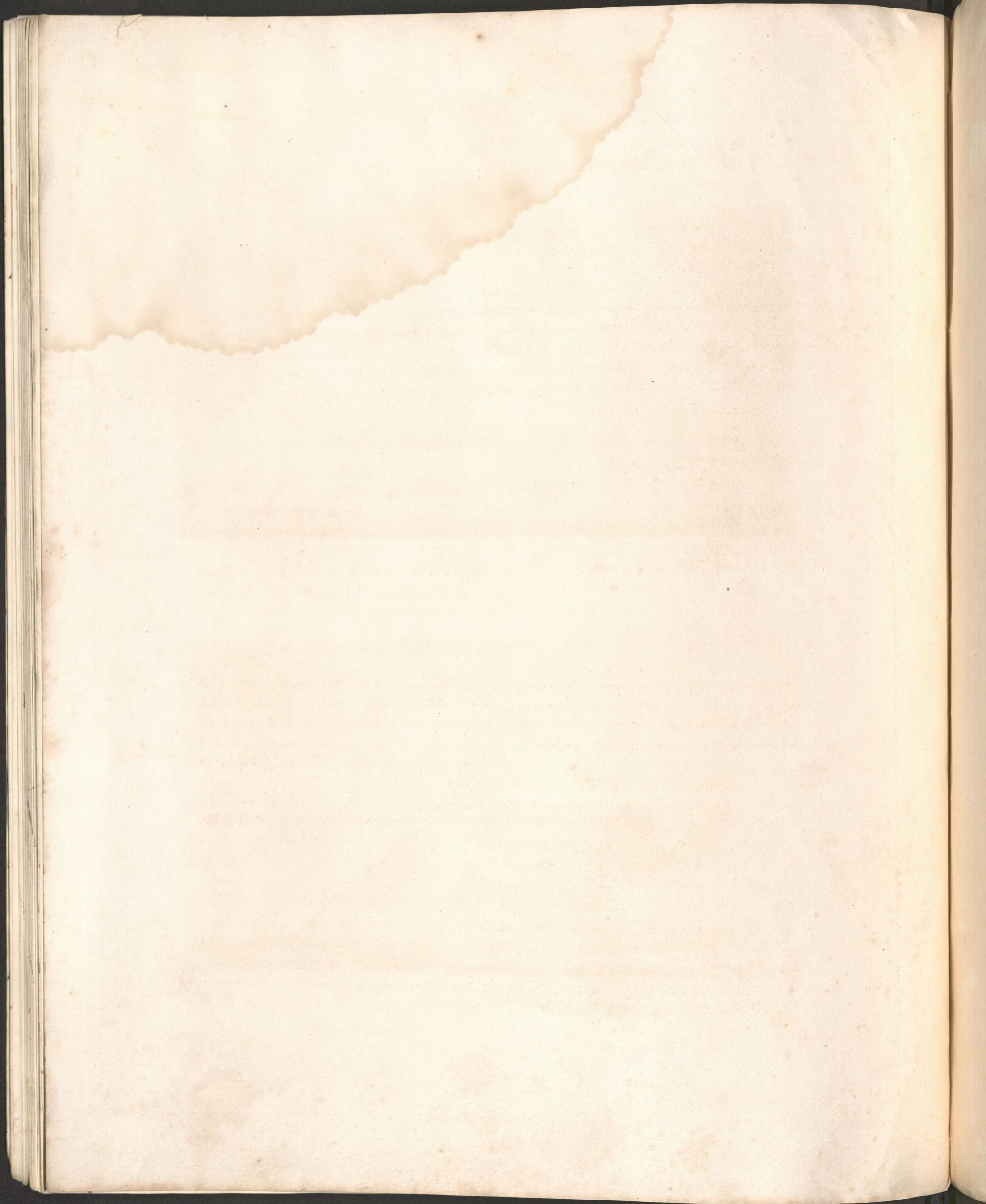
~~ Cirrus

~~ Cirrocumulus
(Cir-Cum.)

~~ Cirrostratus
(Cir-Str.)
various forms

Engraved & Printed by J.M. Butler, Philad.

~~ Cumulonimbus
(Cum-Str.)



ABSTRACT LOG FOR THE MERCHANT SERVICE.

THE Maritime Conference at Brussels recommended the form of an abstract log, especially for men-of-war. The nations represented at that Conference, were Denmark, Sweden, Russia, Norway, Portugal, Holland, France, Belgium, England, and the United States. It is presumed that all these nations will, as the United States have done; as Prussia and Spain, who were not in the Conference, are ready to do, viz: approve that form, and command it to be kept on board of all their men-of-war at sea, and *recommend, at least*, that the same be done in their merchant service.

The following is the order of the Hon. J. C. Dobbin, the Secretary of the Navy upon this subject, to the officers of the United States Navy:—

GENERAL ORDER:

NAVY DEPARTMENT, November 3, 1853.

The form of the "Abstract Log," recommended by the late Maritime Conference at Brussels, is hereby approved and adopted for use in the Navy of the United States.

It is recommended to navigators generally, and will be faithfully kept on board of all vessels in the naval service.

Commanding officers of vessels afloat are specially charged with the execution of this order, and they will transmit copies of the Abstract kept on board, to the Chief of the Bureau of Ordnance and Hydrography at the end of the cruise, and at such other times as he may direct.

(Signed) J. C. DOBBIN, *Secretary of the Navy.*

The intelligent navigator will perceive, by looking over the "Explanatory Notes," what remarks apply to the Merchant Service Log. For instance, those for column 15, "wet bulb," do not apply to this log, unless the navigator may think proper to use the wet bulb thermometer. Neither does what relates to the hours 2, 3, 4 P.M., 6, 9 A.M., and 10, in column 2 "hour" apply to the Merchant Service Log, unless the captain, as he is invited to do, shall choose to introduce in his log these hours. In that case, he is requested to give preference to those hours that are printed in heavy figures.

I quote the Explanatory Notes given by the Brussels Conference for keeping this log; to which I have made some additions. These additions are contained in brackets, thus [].

EXPLANATORY NOTES FOR KEEPING THE ABSTRACT LOG.

The name of the *last* place from which the vessel sailed, and the place to which she is going, should be stated in the abstract.

1st Column.—THE TIME inserted in the abstract log should be civil time; but if astronomical [or sea] time is inserted, it should be so stated at the commencement of the log. The months should be indicated by the Roman letters from I. to XII., January being I. [December XII.]

II

2d Column.—HOURS; this column contains all the hours at the even numbers, and in addition 9 A. M. and 3 P. M. The hours 4 A. M. and 9 A. M., Noon, 3 P. M. and 8 P. M. are printed in larger type, to indicate that it is at these hours that observations are especially required, as will be farther explained.

3d Column.—LATITUDE OBSERVED.

4th Column.—LATITUDE BY DEAD RECKONING.

5th Column.—LONGITUDE OBSERVED.

6th Column.—LONGITUDE BY DEAD RECKONING.

7th and 8th Columns.—DIRECTION AND RATE OF CURRENTS. On ordinary occasions the currents should be determined at noon on each day, by comparing the position of the ship, as determined by observation, and its position, as found by dead reckoning; the direction and rate of the current in nautical miles for the last 24 hours should be given [or better, for the time during which it has been felt]; besides the daily entry at noon, the rate and direction of currents should be noted at shorter intervals, when the ship is in the vicinity of the great oceanic currents, or when it is supposed that the currents may sensibly vary in the 24 hours.

9th Column.—THE OBSERVED VARIATION should be entered in degrees and minutes; and when the variation is determined by observation of the moon or a star, the sign C or * should be placed after the entry, thus: $23^{\circ} 16'$ W. C.

The variation should be corrected for local attraction; in other words, the variation entered should be what the variation would have been, had the ship been heading at the time of observation upon the course, in which the local variation would be O.

It is desirable that every vessel should be provided with a *standard compass*, with which all the observations for variation should be made. The position of the standard compass, or of the one used, should be that at which the local attraction is the least, and the compass should always be placed in the same place. When the variation has not been observed, the variation *used* should be corrected for local attraction, and noted.

10th Column.—DIRECTION

11th Column.—FORCE

} of the WIND.

The direction and force of the wind should be regularly entered at 4 A. M., Noon, and 8 P. M. The force and direction entered should be that which has been most prevalent during the eight preceding hours. The direction should be by compass, and expressed in points. The force of the wind should be indicated by the figures given in the first page; if there are squalls, their force should be given in a parenthesis (), opposite the hour at which it takes place.

III

[Columns 10 and 11 are therefore to be filled *only* at 8 P. M., 4 A. M., and Noon. The force and direction of the wind entered at 8 P. M. must be the force and direction that have been most prevalent during the interval between Noon and 8 P. M.; at 4 A. M. enter the prevalent character as it has been since 8 P. M.; and at Noon, the prevalent character since 4 A. M. must be entered. Whether the time kept on board be sea or civil time, from Noon to 8 P. M. is understood to be what in common parlance among seamen is known as the FIRST PART. In like manner, from 8 P. M. to 4 A. M., whether the day commence at noon or midnight, is understood to be the MIDDLE PART.]

12th and 13th Columns.—The BAROMETER AND ITS THERMOMETER should be observed, if possible, at all the hours given in column 2, and at least at 4 and 9 A. M., Noon, 3 and 8 P. M. [The thermometer attached to the barometer—and if none be attached, one should be tied to the lower end—should be carefully noted whenever the barometer is observed, for we depend upon it for an important correction for the Bar.]

Navigators, who are co-operating in this system of research, will please recollect that we are now about to turn over a new leaf, especially as it regards the meteorological observations usually made at sea. We have pushed these observations after the old plan until they have of themselves proclaimed their own imperfections, and have demonstrated the necessity of more accurate observations made with instruments that are *true*.

We are now setting about to catechize nature closely. All who co-operate with us have agreed to propound to her certain questions. Now, unless these questions be truly interpreted, we cannot reconcile the answers that are to be given; and certainly they cannot be truly interpreted unless the instruments used be themselves true.

We want, therefore, when a thermometer is read, to know that its error does not exceed a certain very small quantity—less than a degree always. And, in like manner, when the barometer is read, we want the means of correcting it of its errors, even to the hundredth part of an inch. Every barometer has its sources of error. Mercury, for instance, is very expansible; it is lighter at a temperature of 90° than it is at a temperature of 32°; and with exactly the same atmospheric pressure it will stand higher when the temperature of the column of mercury is 90° than it will when the column of mercury is at any temperature below that. Hence, whenever the barometer is read, we want to know what the temperature of the mercury in the cistern is, in order that we may make this correction. In like manner, it is equally important to know the height of the barometer in the cabin above the level of the sea, and the elements for the other corrections named at page VII.]

14th and 15th Columns.—THE DRY AND WET BULB THERMOMETERS should be observed at the same hours as the barometer. If it rains at the time when the observation with the wet bulb is taken, put the letter B after the temperature. Before reading the wet bulb thermometer, the bulb [or rather, a thin old linen rag should be tied tightly about the bulb, and then the bulb] should be moistened with [clean] fresh water, and allowed to remain a few minutes in the open air, in the shade, and where strong currents of wind from the sails cannot affect it.

All the thermometers ought to have two scales, one that of the country to which the ship belongs, the other the centigrade.

16th Column.—THE FORM AND DIRECTION OF THE CLOUDS should be noted at least at 4 A. M., Noon, and 8 P. M., and as they appear at the time of observation. The form of the clouds should be indicated by the letters given at page VI. When the clouds are observed to be going in different directions at the same time, the direction of the upper ones should be stated above that of the lower, and separated by a bar, thus: $\frac{\text{N. N. E. C.}}{\text{S. W. Cu}}$. [Plate XVI. shows the form of clouds. It gives the forms used by the Smithsonian Institution, and by meteorologists on shore generally.]

17th Column.—THE PROPORTION OF THE SKY CLEAR should be indicated by figures from 0 to 10. Thus 8 indicates that $\frac{8}{10}$ of the sky is clear.

18th Column.—FOG, RAIN, SNOW, AND HAIL. The number of hours of fog, rain, snow, and hail, in the eight preceding hours, should be noted at 4 A. M., Noon, and 8 P. M.

The letter A, indicates fog; C, snow;

B, rain; D, hail.

One or two bars placed under the hours indicate degree [intensity or quantity]: thus 3 B, is 3 hours of light rain; 3 B, [moderate] rain; 3 B, heavy rain.

The direction and force of the wind, etc., before, during, and after the rain, should be stated in the column of Remarks.

19th Column.—THE STATE OF THE SEA during the eight preceding hours should be stated at 4 A. M., Noon, and 8 P. M., by means of the signs given on the second page. [These signs were omitted to be inserted in the original.]

20th Column.—TEMPERATURE OF THE WATER AT THE SURFACE. For the hours at which the observations should be taken, see directions for the barometer and thermometer. The water should be taken up in a wooden bucket, as far as possible from the ship's side, and placed in the shade on deck; the thermometer should then be placed in the water, and left there for two or three minutes [five], and read afterwards, whilst the bulb is in the water. In addition to the ordinary observations, the temperature of the water should be taken when any particular circumstances may seem to make it desirable, as when there are changes in the color of the water, [or when the vessel is] in the neighborhood of ice, shoals, the gulf or other streams, and at the mouths of great rivers.

The temperature of the water should also be taken during thunderstorms, and when any electrical phenomena are observed.

21st Column.—The SPECIFIC GRAVITY OF THE WATER AT THE SURFACE OR AT DIFFERENT DEPTHS, should be noted at least once a day; when the water is taken from a certain depth, the depth should be entered under the specific gravity, and under a line ($\frac{0.39}{1.00}$). The specific gravity is stated without any other correction than that which the instrument employed may require. The temperature of the water should be placed in the 20th and 22d columns. It is desirable that a uniform scale should be adopted in the instruments used in ascertaining the specific gravity; that the specific gravity of distilled water should be the unit, and that of the sea-water expressed in decimals. [The hydrometer of commerce, that is, the one of glass, and in the shape of a thermometer with a huge bulb slightly loaded, used for proving spirits, is the one recommended for the American Service.]

22d Column.—The TEMPERATURE OF THE WATER AT DIFFERENT DEPTHS should be taken at least once a day, according as circumstances may be more or less favorable; the temperature should be entered above the specific gravity and separated from it by a bar ($\frac{54^{\circ}}{0.035}$); the unit of measure in depths is fathoms [of six feet each, English]. In taking water from moderate depths, it may be hauled up in a cylindrical box, 18 inches long, and 6 inches in diameter, having two valves in the ends opening upwards. This box may be either of wood or iron, and attached to the deep-sea lead. [Self-registering metallic thermometers are better.]

It is desirable, frequently, to try the temperature of the water at the depth of the ship's cock below the surface; the cock should be left open for 8 or 10 minutes before the bucket is filled, and the thermometer should be left two or three minutes [five] in the water, as before described, before reading it, and it may be well to note the rate of the ship at the time the cock was open. The temperature of the water at the surface should be observed, whenever the temperature at different depths is taken.

When there is a great difference between the temperature of the water at the surface, and at some depth, observe the indications of the wet and dry bulb thermometers, and note them in the column of Remarks.

Although these observations are of importance in every part of the globe, still, there are certain regions where the differences between the temperature at the surface and the temperature at certain depths have a particular interest. We may mention the regions of the trade-winds, the Indian Ocean, the Cape of Good Hope, and especially in the Lagallas current, and near the mouths of great rivers.

COLUMN OF REMARKS.—The column of Remarks will contain everything which the captain may consider useful. We direct attention to the following points:—

1st. If the vessel is a steamer, state whether she was steaming or under sail at the time the observations are made.

Tempests, tornadoes, whirlwinds, typhoons, or hurricanes, etc.—Every circumstance connected with these should be stated in great detail; the different changes of the wind, the appearance of the sky and the clouds, of the sea and electrical phenomena, rain, hail, etc. The height of the barometer should be frequently noted, at least as often as there is a change of a tenth of an inch, and the time when the remarks are made [*i. e.* when the phenomena are seen, or when the observations are made], should be stated.

When *water-spouts* are observed, the time of their duration, their successive appearances, their formation, gyroscopic movement, translation, and breaking up, should be described.

Note the circumstances attending storms, the thunder, lightning, etc.; and when phenomena of this nature are observed by navigators, they should be guided in their observations by a reference to analogous phenomena, which they may have observed in other regions, more especially upon the edge of the Gulf Stream.

It is desirable to have the *temperature of the rain* compared with the temperature of the air.

When it *hails*, describe the *hailstones*, and the electrical phenomena.

Note the quantity of *dew*, the time when it commences to fall, and, in cases of extraordinary deposits, note the temperature of the air as close to the surface of the sea as possible, and at the same time at the masthead.

When *red fogs* or *showers of dust* are met with, describe the weather and the appearance of the sky, and obtain, if possible, specimens of the dust.

Observe the height of the *waves*, the distance between them, and their rate of progress.

Note the *tide rips* seen, particularly in the tropics, and the age of the moon at the time.

When the surface of the sea is covered with *pink or white patches* of water, as is often the case in the Pacific Ocean, describe them, and preserve specimens of the water in phials with ground-glass stoppers; if practicable, get a cast of the deep-sea lead, and take the temperature of the water at the surface, and at some depth.

When *deep-sea soundings* are taken, state the time the lead takes to descend each 100 fathoms, and carefully preserve whatever the lead brings up from the bottom. [Deep-sea soundings should always be made from a boat.]

It is much to be desired, for the sake of comparison, that the same sized line and the same shaped lead, of equal weight, should be used. [For description of those used in the U. S. Navy, see *Maury's Sailing Directions*, 6th ed. p. 225.]

In places where *ice* may be met with, observe the temperature of the water frequently; these observations are most valuable when there are fogs which may prevent the ice from being seen, as they may indicate its presence even at the distance of 2 or 3 miles, especially when the ice is to leeward.

Note the appearance of the ice, and the direction in which it has been drifted.

In addition to the *thermometers* usually supplied to ships, it is desirable that they should be furnished with others with *white, black, and blue bulbs*, colored with water-colors. These three thermometers should be exposed simultaneously to the sun in fine weather for some minutes at 9 A. M., noon, and 3 P. M., and occasionally at night [to the open sky] in time of dew; their indications should be entered in the column of Remarks.

Note the *shooting stars*; their point of departure and the point to which they appear to converge, the constellations which they traverse, their numbers in a given time. They should be especially observed about the 10th of August and the middle of November.

The *Aurora borealis*; the time of its appearance and disappearance, extent, form, position, intensity of light, color, its motions, and changes should be described.

Halos, rainbows, meteors, etc. should also be noted.

Carefully note the appearance of *birds, insects, fish, sea-weed, drift-wood*, and mention any circumstances which may throw light upon their appearance.

When at anchor, *tidal observations* should not be neglected, and the times of high and low water, if possible, should be observed; state the time also of change of tide, the rate and direction of the current at various stages, both

VI

on the flow and ebb, and everything relative to this important question. Hourly meteorological observations, especially at the times of the equinoxes and solstices, would be very valuable.

In addition to the observations mentioned in the abstract log, it is desirable that each captain should write, at the end, any general remarks which his personal experience may suggest [as to the route pursued, currents, winds, &c., encountered by the way], more especially if he has frequently made the same voyage.

(1). _____

(2). _____

(3). _____

(4). _____

(5). LOCAL DEVIATION:—

Before sailing.

SHIP'S HEAD.	DEGREES OF DEVIATION.	SHIP'S HEAD.	DEGREES OF DEVIATION.
NORTH. .		SOUTH. .	
N.N.E. . .		S.S.W. . .	
N.E. . . .		S.W. . . .	
E.N.E. . .		W.S.W. . .	
EAST. . .		WEST. . .	
E.S.E. . .		W.N.W. . .	
S.E. . . .		N.W. . . .	
S.S.E. . .		N.N.W. . .	

When arrived.

SHIP'S HEAD.	DEGREES OF DEVIATION.	SHIP'S HEAD.	DEGREES OF DEVIATION.
NORTH. .		SOUTH. .	
N.N.E. . .		S.S.W. . .	
N.E. . . .		S.W. . . .	
E.N.E. . .		W.S.W. . .	
EAST. . .		WEST. . .	
E.S.E. . .		W.N.W. . .	
S.E. . . .		N.W. . . .	
S.S.E. . .		N.N.W. . .	

- (1). Enter the class of the vessel, her name, country, and the name of the captain.
- (2). If the vessel is of iron or wood; and mention the quantity of iron, if any, in the cargo.
- (3). Enter the names of the places at which the vessel has called during her voyage.
- (4). Name the meridian from which the longitude is calculated.
- (5). Give the table of local deviation at the commencement and at the end of the voyage; and state in the log the manner in which it was determined, and if the vessel was loaded with any iron when the observation was made, or whether any iron as cargo was taken on board after the observation was made.

If practicable, the operation should be repeated during the voyage.

VII

Describe, on pages VII. and VIII., the instruments you have on board, the manner of using them, and of making the observations.

BAROMETER (corrections to)
Index error.
Capacity.
Capillarity.
Mean height above the sea.

Compared by Mr.

with the standard at

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THERMOMETERS (correction to). [Number your thermometers, and state the corrections that are to be applied to the various readings of each, to make them correct.]

FORCE OF THE WIND indicated by numbers (sailing by the wind).

- | | | |
|-----------------------------|------------------------------------|--|
| 0. Calm. | 5. With royals. | 9. Close-reefed topsails and courses. |
| 1. Ship has steerage. | 6. Top-gallants over single reefs. | 10. Close-reefed main topsail and reefed foresail. |
| 2. Clean full 1 to 2 knots. | 7. Double-reefed topsails. | 11. Staysails. |
| 3. Clean full 3 to 4 knots. | 8. Triple-reefed topsails. | |
| 4. Clean full 5 to 6 knots. | | |

FORMS OF CLOUDS ARE: cirrus (*Ci.*); cumulus (*Cu.*); stratus (*St.*); nimbus (*Ni.*), etc. [See Plate XVI.]

VIII

ABSTRACT LOG

CAPTAIN

DATE.	HOUR.	LATITUDE BY		LONGITUDE BY		CURRENTS.		MAGNETIC VARIATION OBSERVED.	WINDS.		BAROMETER.	
		Observation.	D. R.	Observation.	D. R.	Direction.	Rate.		Direction.	Rate.	Height.	Ther. attach'd.
Noon.	2							(Middle part.)				
	4											
	6											
	8											
	9											
	10							(Latter part.)				
	12											
	2											
	3											
	4											
II. 1.	6							(First part.)				
	8											
	10											
	12											
	2											
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
[a]	[b]	[a]	[c]	[a]	[c]	[a]	[a]	[a]	[a]	[a]	[a]	[a]

DESCRIPTION OF INSTRUMENTS.

IX

FROM _____

TO _____

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THERMOMETER.		FORMS AND DIRECTION OF CLOUDS.	PROPOR. OF SKY CLEAR.	HOURS OF FOG A. RAIN B. SNOW C. HAIL D.	STATE OF THE SEA.	WATER.			STATE OF THE WEATHER.	REMARKS.
Dry bulb.	Wet bulb.					Temp. at surface.	Specific gravity.	Temp. at depth.		
(14) [a]	(15) [b]	(16) [a]	(17) [a]	(18) [a]	(19) [c]	(20) [a]	(21) [b]	(22) [b]	(23) [c]	(24) [a]

DESCRIPTION OF INSTRUMENTS.

CONDITIONS UPON WHICH THE WIND AND CURRENT CHARTS ARE FURNISHED
TO NAVIGATORS.

These Charts are based upon a system of voluntary co-operation; and, so far, they have been constructed from materials furnished principally by American shipmasters, and on condition of each one being supplied with such sheets of the Charts as relate to his cruising ground, and which his observations have helped to make.

It has been judged wise to extend this system of co-operation, seeing that it has worked so well in the American merchant service, to the merchant service of all other friendly nations.

Accordingly, the Hon. J. C. Dobbin, Secretary of the Navy, with a spirit of liberality deserving of the highest commendation, has authorized me to place these Charts and Sailing Directions at the disposal of foreign governments for distribution among their shipmasters trading upon the high seas, who will lend their co-operation also, and who will first provide themselves with the requisite instruments for making the observations required, and for keeping the abstract log in the manner required.

It is desirable that the American shipmasters who wish to continue their co-operation, and to continue their claims to be entitled to new editions of Sailing Directions and Charts, should provide themselves with at least three thermometers, which have been carefully compared with a standard for every five degrees at least from 30° up to 100°.

The errors of the thermometer will generally be different for different parts of the scale. Hence the recommendation for comparisons at every five degrees. Nor should the shipmaster purchase a thermometer, even after it has been so compared, if its error in any part of the scale exceed 1°.

It is not required of American shipmasters, as a *condition* to entitle them to the Charts, that they should have thermometers of two scales, viz: Fahrenheit and the centigrade. Their attention is simply called to what the Brussels Conference says upon the subject, with the request that those who shall choose to follow those recommendations upon this point, will state in the abstract log that their thermometers are provided with both the Fahrenheit and centigrade scale. It is always the reading, they will please take notice, by the Fahrenheit scale that is to be entered in this abstract.

Every navigator, who, after receiving a copy of the Charts, fails to comply with these conditions, viz: to keep abstracts of his voyages as per form, and, on his return to the United States, to transmit them to me at the National Observatory, or, if a foreign vessel, to the person appointed in his own country to receive them, forfeits his claim to all future publications.

The Charts are to be had on application either at the National Observatory, Washington, or of George Manning, New York; provided the applicant will comply with the conditions above set forth. The following is the form of the receipt, which he is required to sign for such Charts as he may receive:—

FORM OF RECEIPT.

<i>Received this</i>	<i>day of</i>	185
<i>from</i>		
<i>Maury's Sailing Directions,</i>	<i>edition, and</i>	<i>one Abstract Log, one Copy of</i>
<i>sheets Nos.</i>		<i>(Series A.)</i>
<i>do. do.</i>		<i>(" B.)</i>
<i>do. do.</i>		<i>(" C.)</i>
<i>do. do.</i>		<i>(" D.)</i>
<i>do. do.</i>		<i>(" E.)</i>
<i>do. do.</i>		<i>(" F.)</i>

MAURY'S WIND AND CURRENT CHARTS; *for, and in consideration of which, I promise to keep, in the manner and form prescribed, a journal of my Voyages, and on my return to transmit the same to the National Observatory, Washington.*

Commanding _____
of _____
Bound _____

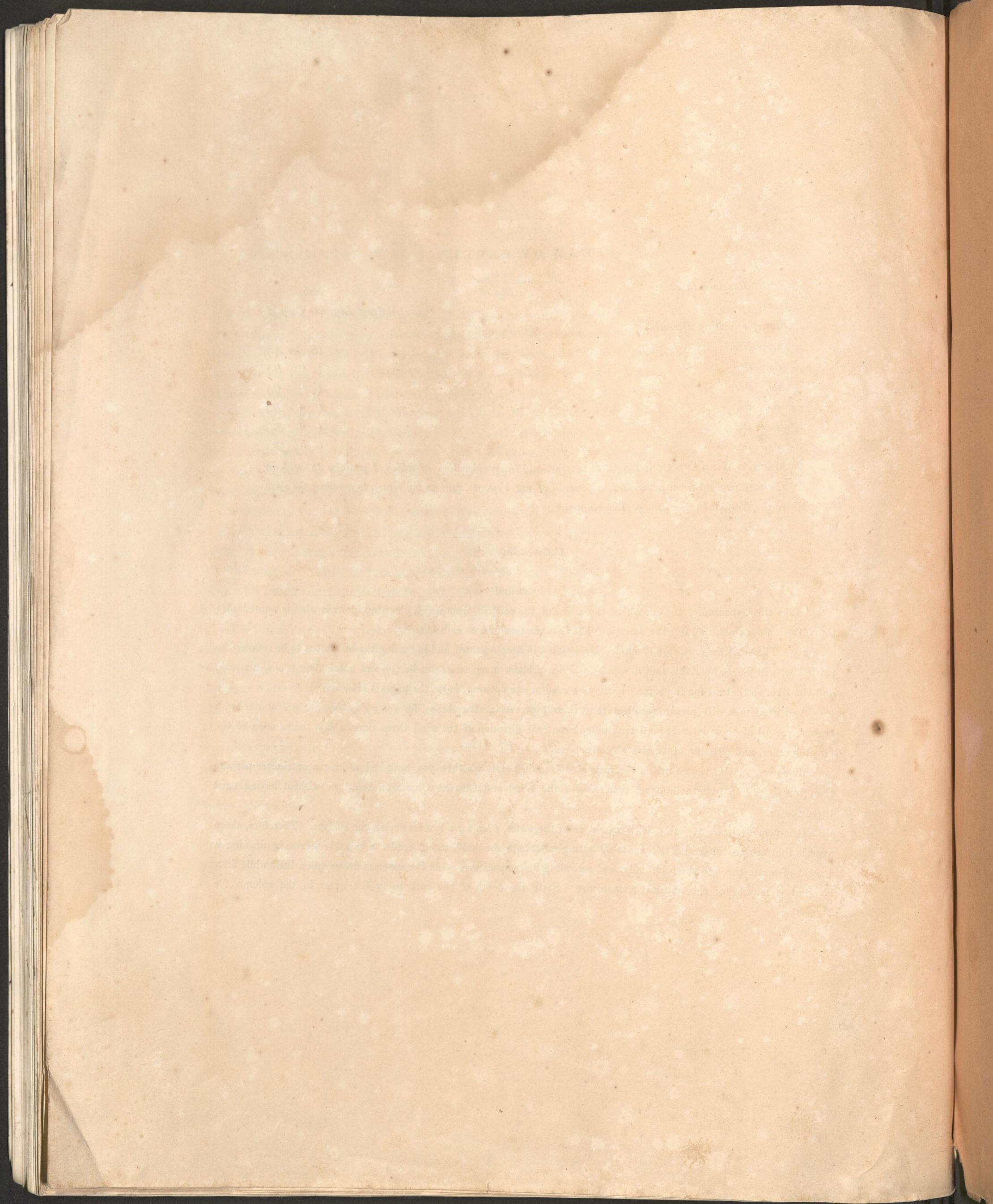
I take this opportunity to repeat that the *point* of the compass from which the wind blows is what is wanted, also the variation *observed*, and not the variation that is taken from charts or books.

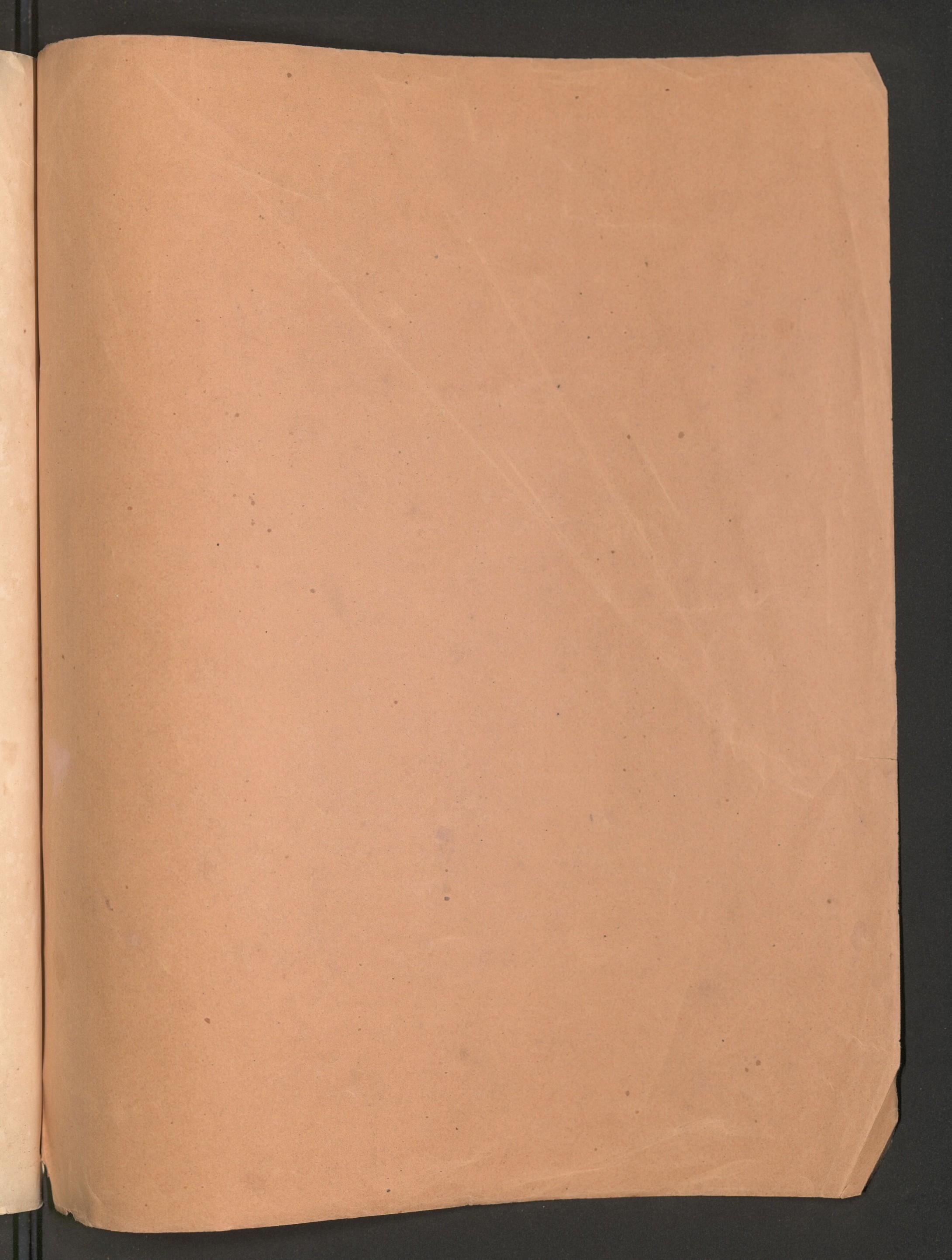
The Abstracts are to be bound. Navigators, in keeping them, and in cutting the leaves out to be returned to this office, will please bear this fact in mind—and leave blank margins for binding;—and enter their winds, remarks, and the like, so that all for the same day may be read at one opening, as on the pages VIII., IX.

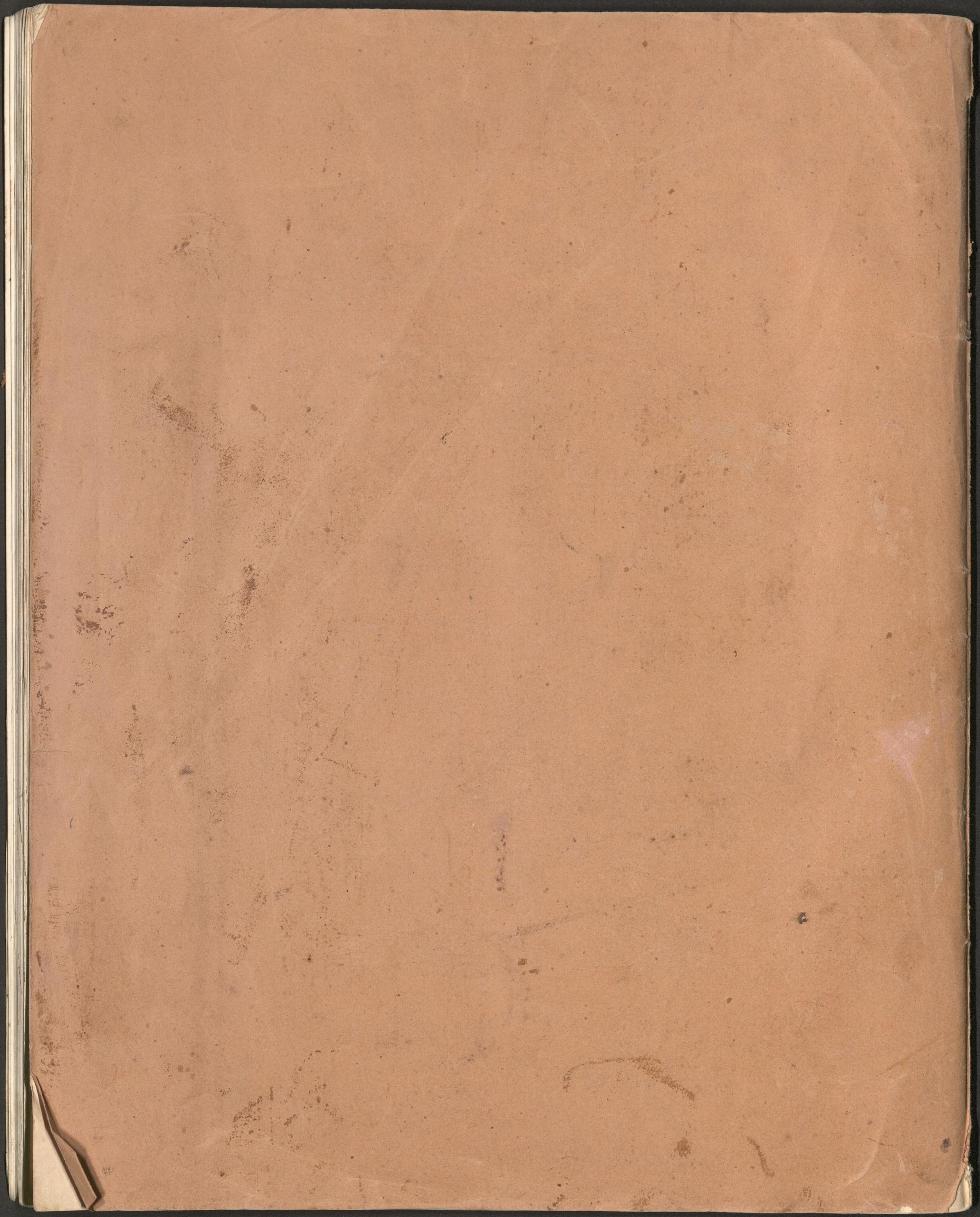
And whalers will please recollect that their abstracts must embrace, for *every day they are not at anchor*, a regular record of their latitude and longitude, force and direction of the wind three times a day, temperature of the air and water, and mention of whales whenever seen.

When any of the routes herein recommended are tried, state whether you have had a longer or shorter passage than vessels sailing about the same time *without* the Wind and Current Charts on board, or without having tried these routes.

It is very desirable to know the temperature of the water, even for a few feet below the surface. Therefore, those vessels that are provided with the means of letting water into the hold, would render a valuable service by drawing a bucket of water through the cock daily, and recording its temperature. Let the water so drawn run a little while first, so that it may be of the natural temperature. State the depth of the cock below the water in the column for Remarks.







Montevideo Jan 21st 1867.

Received of James Burgess the
sum of Seventy Seven 36/100 dollars
on account of Services on board
Bark Kremlin Charles Brown

Gilbert Noddybenga in account with Back Kremn Dr
Advance wages 10.00

Oct 19 th 68	cash in Bulbridge	20.00
24	clothing "	7.30
Nov 1 st	1 oil suit	10.00
"	1 Pair Boots	6.00
	4 lbs Tobacco	6.00
Jan 1 st	cash \$10 Gold	15.00
19 th	" 5 "	7.50

Charles Brown in account with Back Kremlin Dr

Advance wages	10.00
Oct 19 th 66/ cash in Millbridge	20.00
" 24 clothing "	4.24
Dec 24 4 lbs Tobaccos	6.00
Nov 1 1 oil Suit	10.00
" " 1 pair Boots	6.00
Jan 1 st 67/ cash \$10 Gold	15.00
19 " " " "	15.00

John Cunningham in account with Back Kremlin Dr

Advance wages	10.00
Oct 19 th 66/ cash in Millbridge	20.00
24 clothing	8.29
Nov 1 st 1 oil Suit	10.00
" " 1 pair Boots	6.00
Nov 6 th 3 lbs Tobaccos	4.50
Dec 24 th 2 " "	3.00
Jan 1 st 67 cash \$10 Gold	15.00

List Of Stores on board Bark
Premlin April 4th 1869.

9 Bbls Beef.
3 " Pork.
4 " Flour.
2 " Bread.
175 lbs Sugar.
30 Gallons Molasses.
25 lbs Dried Apples.
20 " Rice.
5 Hams.
18 Cans Preserved Meats.
8 Gallons lamp oil.
30 lbs Butter.
20 " Tea.
80 " Coffee.
50 " Paint. 3 Gallons Paint Oil.
3 coils Rope. 1 Bolt canvas.
10 lbs soaps.
20 " Tobaccos.
50 " Fish.
30 " Beans.
10 " Wine.
And other Small Stores.

James Burgess.